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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,755	12/22/2005	Dieter Bieker	037068.55814US	8752

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EXAMINER

HSIAO, JAMES K

ART UNIT	PAPER NUMBER
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3683

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/522,755	Applicant(s) BIEKER ET AL.	
	Examiner James K. Hsiao	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32 and 34-39 is/are allowed.
- 6) ☒ Claim(s) 23,24,26-28,30,31,33 and 40-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **23-24, 27-28, 31, 33, 40, 41, 43, 44 and 45**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortegren et al. (US-6668981) in view of Severinson (US-5833035).

Regarding claim **23**, Ortegren et al. discloses a caliper (**abstract, line 2**) which, in use, straddles the brake disc (**abstract, lines 2-3**); a brake application unit arranged in the caliper for applying a braking force; at least one adjustment device (**fig 6, 23**) arranged in the caliper for offsetting at least one of brake lining and brake disc wear, said at least one adjustment device comprising two axially displaceable adjustment elements (**fig 6, 39**), each of which has a respective pressure piece (**fig 6, end of 39**); a common connector plate (**fig 6, 38**) in which end areas of the two adjustment elements which face a respective brake lining are fixed in a torsion resistant manner (**col. 4, lines 65-67**);

Ortegren et al. lacks a heat insulation layer. Severinson teaches wherein a single or multi-part heat insulation layer is attached (**fig 2, 7**), at least in sections, at least one of the connector plate and the pressure piece on a side facing the respective brake lining.

Ortegren et al. also lacks a pressure piece plate. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a pressure piece plate in place of the notched pressure section end of 39. It would have been obvious to replace the notched ends with a separate plate of harder material that is able to withstand more force than the thrust units 39. Since the whole thrust unit doesn't have to be made from the more expensive harder material used for the pressure plate, the material used would be reduced and cut costs.

Regarding claim **43**, Ortegren et al. discloses as set forth above but lacks to show the pressure piece plates and lining support plate connected. Severinson teaches wherein the pressure pieces (**fig 2, 81**) and lining support (**fig 2, 6**) plates of the brake linings are coupled to one another (**fig 2, through 7**) such that a retraction occurs when the adjustment elements are retracted, and when the brake is released.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach a heat insulating plate of Severinson directly to the connector plate of Ortegren et al. in order to protect elements of the brake against excessive heat.

Regarding claim **24**, Ortegren et al. discloses a connector plate dimensioned such that it largely covers an opening (**fig 6, 38**), which faces the brake disc, of an installation space in the caliper in which the adjustment device is arranged (**fig 6**).

With the modification of Ortegren et al. through Severinson the connector plate serves as a thermal shield.

Regarding claims **27 and 28**, Ortegren et al. discloses an electric motor drive operably coupled to at least one of the adjustment devices (**col. 2, lines 20-23**).

Regarding claim **31**, Ortegren et al. discloses wherein the pressure plate is arranged flush with a surface of the connector plate (**fig 6**) and held in an axial torsion-resistant manner (**col. 4, lines 65-67**).

Regarding claim **33**, Ortegren et al. discloses where the connector plate is provided with protuberances (**fig 6**) in a connection area with the adjustment elements facing the brake lining, said adjustment elements (**col. 4, lines 65-67**) being fixed axially and torsion-resistibly in said connection area.

Regarding claim **40**, Ortegren et al. discloses an expansion bellows (**fig 6, 15**) coupled to the connector plate and covering the adjustment element at least partially.

Regarding claim **41**, Ortegren et al. discloses wherein the expansion bellows is attached, at an end facing the connector plate, to an inner collar at the pressure element, and to an outer collar at the connector plate (**fig 6, 15**).

Regarding claims **44 and 45**, Ortegren et al. discloses one or more plate springs arranged at one of the pressure pieces or a component of the adjustment element (**fig 6, 11**) and undercut a component of the adjustment element coupled to the pressure piece (**fig 6**).

3. Claim **26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ortegren et al. (US-6668981) in view of Severinsson (US-5833035) and in further view of Baumgartner et al. (WO-02/14711)

A translation of Baumgartner et al. (WO-02/14711) is (US-7086504).

Regarding claim **26**, Ortegren et al. discloses as set forth above in section 6 but lacks an adjustment device on both sides of the brake disk. Baumgartner et al. teaches wherein an adjustment device is arranged in the caliper on each side of the brake disk (**fig 1**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Ortegren et al. with the device of Baumgartner et al. because when wear occurs it is necessary to adjust the pad clearance on both sides of the disk so there is even wear.

4. Claim **30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ortegren et al. (US-6668981) in view of Severinsson (US-5833035) and in further view of Ritsema (US-4583623).

Regarding claim **30**, Ortegren et al. discloses as set forth above in section 6 but lacks a heat insulation layer made from a ceramic material. Ritsema teaches a heat insulation layer that is formed of a ceramic material (**col. 3, lines 18-23**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the heat shield layer of Ortegren as modified by Severinsson with the heat shield material of Ritsema in order to prevent burnout and brake fatigue.

5. Claim **42** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ortegren et al. (US-6668981) in view of Severinson (US-5833035) and in further view of Giering et al. (US-5520267).

Regarding claim **42**, Ortegren et al. discloses as set forth above in section 6 but lacks a wave fold on the connector plate. Giering et al. teaches a connector plate that has a wave fold (**fig 10, 133 near ref # 62**) in a center area extending transverse to a longitudinal extent of the connector plate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the connector plate of Ortegren et al. with the wave fold of Giering et al. because it will provide flexibility in the connector plate.

Allowable Subject Matter

6. Claims **32 and 34-39** are allowed.

Response to Arguments

7. Applicant's arguments with respect to claim 23, 25, and 29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

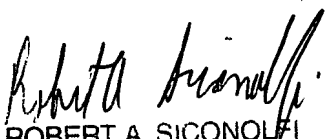
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Hsiao whose telephone number is 571-272-6259. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

Art Unit: 3683

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JKH

 10/24/07
ROBERT A. SICONOLFI
SUPERVISORY PATENT EXAMINER